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INDEX TO VOLUME 46

NOTE

		preceding an
uthor of a paper by	outhor of a paper by (D), placed after	notice, are in caps and small caps. A discusser is nuther of a paper by (D) , placed after the subject of ins are denoted by (I) , curves by (C) , and tables by

Titles of papers, where placed after the name of the author, and appearing in their exact form, are in italics. Papers are indexed not under their titles but under their subject-matter.

On pages 1361 et seq. will be found an alphabetical list of (a) 1924 Spring and Annual Meeting papers not included in this volume but published in Mechanical Engineering, or, in a few cases, in Refrigerating Engineering; (b) of papers presented before sections of the Society and published in Mechanical Engineering; and (c) of other leading articles and technical reports published in Mechanical Engineering during 1924.

	PAGE
Accounting, cost	715
cost, in hosiery manufacture799,	806
Acid, oleic, effect on lubricating oils	874
Adamson, Daniel. Strength of gear teeth (D)	910
Adiabatic saturation	763
Adiabatic saturator	769
Adirondack Power and Light Corporation anthracite furnaces.	643
Air, static-pressure measurement of	294
Air meter	291
equations for	337
Aitchison's tests on oxidation of steels at high temperatures	425
Alloy, aluminum, high-temperature tensile properties (C)	
468, 469,	470
aluminum-nickel	430
bearing-metal, high-temperature tensile properties (C)	471
chromium-molybdenum-iron, effect of temperature on (C).	431
cobalt-chromium	431
manganese-nickel	430
nickel-chrome, high-temperature tensile properties (C)	461
nickel-chromium-iron, effect of temperature on (C)	431
white metal, high-temperature tensile properties (C)	471
Alloy steels, flow under load at high temperatures (C)	419
impact tests on, at high temperatures (C)	418
oxidation at high temperatures	426
tensile properties at high temperatures (C)405, 407,	409
torsional properties at high temperatures (C)	412

	PAGE
Alloys, bibliography of high-temperature properties	477
copper, hardness at high temperatures (C)	472
copper-nickel, high temperature properties of (C)455, 456	457
copper-zinc, compressive resistance at high temperatures	
(C)	453
copper-zinc, plasticity at high temperatures (C)450	
heat-resisting, developments of	427
nickel, effect of temperature on elongation (C)	462
non-ferrous, properties at various temperatures	433
structural change in, at high temperature	397
Alternating-stress tests at high temperatures388	
Aluminum, high-temperature tensile properties of (C)	467
Aluminum alloy, high-temperature tensile properties of (C)	
468, 469	470
Aluminum bronze, high-temperature properties of (C)	446
Aluminum-nickel alloy	430
American Engineering Standards Committee	553
Ammonia process, synthetic, metals for	427
Amsler, pendulum dynamometer	501
Analyses of flue gas in anthracite furnaces	651
Analyses, operation	680
Anderson, Charles E., obituary	1287
Anderson, John. Applications of powdered coal to steam	
boilers (D)	632
Angleometer, double-vane	982
Angus, Robert W. Intakes for Power Plants	1131
Annual Meeting	23
Annual Report of Council.	547
Anthracite, burning of	639
Rhode Island, boiler tests with (T)	
d'Arcambal's tests on high-speed steel at high temperatures (C)	410
Armoo iron, modulus of elasticity at high temperatures (C)	405
Ash, fusion of, in powdered coal installations	626
content of coal, effect on boiler performance	621
Augsburg horizontal tandem double-acting oil engine	1018
Augsburg nortzontal tandem double-acting on engine	1010
BABCOCK, GEORGE D., Production Control	007
Baffling, effect on boiler performance	618
	019
BAKER, A. J. Analysis of a machine-shop problem on a quantity	940
and final economy basis (D)	249
BALDWIN, WILLIAM J., obituary	1287
BALL, BERT CHARLES, obituary	1288
Ballinger, Walter Francis, obituary	1288
BARNARD, DANIEL P. Graphical study of journal lubrication (D)	829
Batson's high-temperature tests of metals	362
BAUSCH, WILLIAM H., obituary	1289

PA	GE
Bearing-metal alloy, high-temperature tensile properties (C) 4	71
Bearing research, high-pressure 8	33
Bearing pressures, crankpin, in oil engines (C) 10	33
critical 8	55
main bearing, in oil engines (C)	34
wrist-pin, in oil engines (C)	31
Bearings, critical pressure in 8	37
	44
	50
	38
partial, capacity of (C)	
partial, loading charts (C)820, 8	
partial, lubrication of	
The state of the s	35
	45
	55
and the same of th	45
Bell, John Everett, obituary 12	89
11	36
	67
the same of the sa	47
	57
the state of the s	48
	69
8 1 1	77
of oil engines	
	81
Blackwood, Joseph H., obituary	
manuscript Good complete as delivers and del	11
Trees, I have a first of the fi	47
Blohm & Voss vertical double-acting two-cycle oil engine 101	19
Blowney, W. E. Increase in Thermal Efficiency due to Re-	
	63
	96
	59
	16
Boiler Code Committee report	85
Boilers, steam. See Steam boilers.	
Brass, brittleness of	15
cast, high-temperature properties of (C) 44	17
high-temperature tensile properties of (C)	
leaded, high-temperature tensile properties (C) 44	-
naval, hardness at high temperatures (C) 47	
rod, effect of high temperature on torsional properties of (C) 47	
U. S. Navy, high-temperature tensile properties of (C) 45	59

PAGE
Brearley's torsion tests on steels at high temperatures 413
Bregowsky's high temperature tests of metals367, 391
tests on alloy-steels at high temperatures (C)409, 412
tests on aluminum bronze at high temperatures (C) 446
tests on brass at high temperatures (C)
tests on copper-tin bronze at high temperatures (C) 439
tests on Monel Metal at high temperatures (C) 463
tests on torsional properties of metal under high tempera-
tures (C)473, 474, 475
tests on U. S. Navy brass at high temperatures (C) 459
tests of U. S. Navy bronze at high temperatures (C) 458
Brinell's tests on hardness of steel at high temperatures (C) 414
British Alloys Research Committee report on aluminum alloy
castings at high temperatures (C)
Brittleness of brass
Вкого, В. N. Applications of powdered coal to steam boilers
(D)
Resuperheating in steam turbines (D)
Bronze, aluminum, high-temperature properties of (C) 446
copper-tin, high-temperature properties of (C) 439, 440
manganese, high-temperature effects on torsional properties
of (C)
manganese, tensile properties at high temperatures (C)414, 445
phosphor, hardness at high temperatures (C) 472
phosphor, high-temperature effects on torsional properties
of (C)
phosphor, high-temperature properties of (C) 441
phosphor, microstructure at high temperatures 514
sceptre, hardness at high temperatures (C) 472
Tobin, high-temperature effects on torsional properties of
(C) 475
U. S. Navy, tensile properties at high temperatures (C) 458
Brooks, Edwin Chapin, obituary 1290
Brown, J. Grove, obituary
Brown, Russell G., obituary
Brown, Wendell S. Design, manufacture and production
control of a standard machine (D)
BRYANT, E. J. Analysis of a Machine-Shop Problem on a
Quantity and Final Economy Basis (D)
Buckets, steam-turbine, photoelastic analysis of rupture of 147
steam-turbine, vibration tests of
Buckingham, Earle. Strength of gear teeth 905
BULLARD, E. P., JR. Design, manufacture and production control
of a standard machine (D)
Bunting's researches on brittleness of brass

	PAGE
BURLINGAME, LUTHER D. Design, manufacture and production	
control of a standard machine (D)	722
Strength of gear teeth (D)	901
Byllesby, H. M., obituary	1291
Cahokia power station, boiler tests at	613
powdered coal furnaces in	
Cammellaird-Fullager two-cycle oil engine (1)1012,	1013
Campbell, Wilfred. The Protection of Steam-Turbine Disk	
Wheels from Axial Vibration	31
Carpenter's experiments on growth of cast iron	424
Carrier, W. H. Temperatures of Evaporation of Water into Air	739
Cast iron, growth of	423
hardness at high temperature (C)	414
high-temperature tensile properties of (C)	402
intercrystallin deterioration of	425
Castings, aluminum alloy, properties of, at high temperatures	
(C)468, 469,	470
Centrifugal fans. Sec Fans, centrifugal.	1001
CHAMBERS, C. E. Zoelly turbine-driven locomotive (D)	1234
Charpy's high temperature tests of metals	361
Chemical inertness of ferrous metals	424
chevanard's tests on elongation of nickel alloys at high temperatures (C)	462
Chippawa-Queenston hydroelectric development, ice-diversion	402
experiments	1134
Christie, A. G. Applications of powdered coal to steam boilers	1104
(D)	626
	1001
Properties of metals at high temperatures (D)	514
Chrome-nickel alloy, high-temperature tensile properties (C).	461
Chrome-vanadium steel, impact tests on, at high temperatures	101
(C)	418
torsional properties at high temperatures (C)	412
Chromium-molybdenum-iron alloy, effect of temperature on (C)	431
Chromium steel, high-temperature tensile properties of (C)	407
	1292
Cleveland Meeting	16
Coal, anthracite, burning of	639
	1250
effect of ash and iron in, on boiler performance	621
powdered. See Powdered coal.	
pulverized. See Powdered coal.	
Cobalt-chromium heat-resisting alloy	431
Coefficient of friction of perfect oil films (C)	
	768

Page
Coke breeze, burning of
Coke-oven gas 213
Colby, Albert Ladd, obituary
Colby, H. S. Burning of anthracite (D) 664
Combustion of anthracite
Commercial-efficiency formula
Committees of the Society 8
Compression pressures, gas-engine
Condenser, mercury 267
Connecting-rod, automobile, machining
Constants, high-pressure-bearing (T) 850
Control boards, production
Control of stores in manufacturing
Conversion table, cents per kw-hr. to cents per million B.t.u, 1246
Coonley, Howard. Production control (D) 686
Copper alloys, hardness at high temperatures (C) 472
Copper, high-temperature properties of
Copper-nickel alloy, high-temperature properties of (C).455, 456, 457
Copper-tin bronze, high temperature properties of (C)439, 440
Copper-zinc alloys, compressive resistance at high temperatures
(C)452, 453
plasticity at high temperatures (C)450, 451
Corrosion in gas engines
in steam boilers at high temperatures 516
Cost accounting
in hosiery manufacture
Cost of coal (T)
Cost of petroleum fuels (T)
Cost of riveted pipe (T)
Cost of steam with powdered coal 613
Cost, unit, of machine shop operations 228
Costs, machine-hour 690
operating, of prime movers (T)1259, 1266, 1268, 1270, 1272, 1274
Coster, Edward Livingston, obituary
COTTON, ALFRED, obituary
Council, annual report of
Counterbalance of locomotive wheel centers 953
Cracking processes, temperatures of
Crandell, Willis S., obituary
Crane Company tests of leaded brass at high temperatures (C) 449
Crank arms, strength and proportions of
Crankpin bearing pressures in oil engines (C)
Cranks, proportions of
Critical pressure in bearings
Critical pressure in bearings
Critical pressures in indricating-on hims. 855 Critical speeds of disk wheels. 44, 76, 129, 133
Critical speeds of disk wheels

INDEX	1337

Page	
Crosshead pressures in oil engines (C) 1032	
Crowley, Henry J., obituary	
Crushing strength of steel at high temperatures (C) 415	
Cummings, C. E. Critical pressures in lubricating-oil films (D) 883	
Cushman, Herbert E., obituary	
Cylinder liners, internal-combustion, stress distribution in (C)	
Cylinders, gas engines, material for	
hollow, derivation of formulas for temperature distribution	
in	
hollow, temperature and stress distribution in 161	
internal-combustion engine, temperature stresses in 183	
Dahl, O. G. C. Temperature and Stress Distribution in Hollow	
Cylinders	
DALTON, HOWARD H. Burning of anthracite (D) 662	
Danilov, M. Gas Turbines	
Danks, A. C. Gas Engine in the Steel Industry 209	
Daugherty, Robert L. Economic design of penstocks (D) 1178	
Davis, H. N. Efficiency of turbine nozzles (D) 1002	
Davis metal, high-temperature tensile properties (C) 466	
Dean, Edward, obituary	
Deans, J. Sterling, Jr., obituary	
De Leeuw, A. L. Analysis of a Machine-Shop Problem on a	
Quantity and Final-Economy Basis 227	
Delta metal, effect of high temperature on torsional properties	
(C) 473	
high temperature properties of (C)	
Deming, William H., obituary	
Denny, R. C. Recent Developments in the Burning of Anthra-	
cite 639	
Departmentalization in manufacturing 698	
Despatching of work in manufacturing 683	
De Wolf, R. A. Mercury-vapor process (D)	
De Wolf, Rocer D. Vibration in steam-turbine disk wheels (D) 156	
Dewrance's tests on gun metal at high temperatures (C) 443	
Dialogue, John H., obituary	
Dickenson's high-temperature tests of metals393, 395	
tests on flow of steel under load at high temperatures (C). 419	
tests on oxidation of steels at high temperatures (C) 426	
Dickerson, Walter H., obituary	
Dickinson, E. D. Vibration in steam-turbine disk wheels (D). 155	
Diesel engines, operating costs	
DIMAN, GEORGE H., obituary	

PAGE
Disk-wheel vibration, application of theory of, to design83, 133
effect of inertia forces
methods of testing 94
resonant frequencies
speed-frequency diagrams
theory of 45
tuning 135
use of oscillograph to determine
Disk-wheel vibrations, energy of
formulas for resonant speeds
interpretation of oscillograph films
photoelastic analysis of
sand pictures 46
theory of rupture of buckets
theory of rupture of disk plates 144
Disk wheels, critical speeds of
effect of bucket tightness on frequency and critical speed 122
effect of temperature on vibration frequency 117
types of failures in
wave motion in
Disks, steam-turbine, protection of, from axial vibration 31
Doell, George E., obituary
Doernickel and Trockels' tests on compressive resistance of
copper-zinc alloys at high temperatures (C) 452, 453
DOOLITTLE, H. L. Method for the Economic Design of Penstocks. 1165
DOWNTON, CHARLES E., SR., obituary
Doxford-Junkers oil engine, two-cycle (I)1014, 1015
Drier, powdered-coal 604
DUNCAN, HAROLD MALCOLM, obituary
Dupuy's tests on cast steel at high temperatures (C) 411
tests of steel at high temperatures (C)
DURFEE, WALTER C. Centrifugal fans for electrical machinery
(D)
DUTTON, HENRY P. Design, manufacture and production control
of a standard machine (D)
Dyer, Robert M., obituary
Dynamometer, Amsler pendulum
Dynamometer, Amster pendulum
EATON, G. M. Strength of gear teeth (D)
EBERHARDT, HENRY J. Strength of gear teeth (D)
Edwards and Herbert's tests of copper-zinc alleys at high tem-
peratures (C)
Efficiency, commercial, formula for
manufacturing
of fuel energy converted to power
value of in transforming and distributing energy 1245

PAGE
EGBERT, C. C. Zoelly turbine-driven locomotive (D) 1241
Exsergian, R. Strength and Proportions of Wheels, Wheel
Centers and Hubs 929
temperature and stress distribution in hollow cylinders (D) 202
Zoelly turbine-driven locomotive (D)
Elasticity, modulus of, formula for
ELLENWOOD, FRANK O. Efficiency of turbine nozzles (D) 999
Resuperheating in steam turbines (D) 583
Elliott, George K. Properties of metals at high temperatures
(D) 516
Elsas, Oscar, obituary
Emmet, W. L. R. The Emmet Mercury-Vapor Process 253
Energy, possible sources of
in fuel, cost of
of disk-wheel vibrations 79
value of efficiency in transforming and distributing 1245
water-power, cost of (C)
Engine, gas, in the steel industry
See also Gas engine.
oil See Oil engine
Engines, Diesel
San also Oil angines
internal-combustion, temperature stresses in 183
Entropy chart for gas turbines
Erdman, Albert W., obituary
Evaporation, temperatures of, water into air
Expansion, thermal, of ferrous metals
Extensometer, high-temperature
Extensometer, ingn-temperature
Communication of the state of t
FAHRENWALD, FRANK A. Properties of metals at high tempera-
tures (D)
Failures in disk wheels
Fans, centrifugal, effect of diffuser on (C)
centrifugal, effect of number of blades
centrifugal, effect of partition in (C)
centrifugal, for electrical machinery
centrifugal, influence of blade form on performance300, 322
centrifugal, influence of intake (C)318, 331
centrifugal, test data of (C)
centrifugal, velocity ratios of (T)
centrifugal, volume delivered by rotating impeller 332
FARQUHAR, HENRY H. Design, manufacture and production
control of a standard machine (D)
Farrar, Edward, obituary
Fatigue of metals at high temperatures

	PAGE
FECHHEIMER, CARL J. Performance of Centrifugal Fans for Elec-	
trical Machinery	287
Feiss, Richard A. Design, manufacture and production control	730
of a standard machine (D)	472
Ferrous metals, chemical inertness of	424
properties at high temperatures.	399
Firebox steel, tensile properties at different temperatures (T)	401
Fits, press, stresses in.	944
Firts, Edwin, obituary	1299
FITZSIMMONS, JAMES CALVIN, obituary	1299
Fixation of nitrogen, metals for	427
FLADD, FREDERICK C., obituary	1299
FLANDERS, RALPH E. Analysis of a machine-shop problem on a	
quantity and final-economy basis (D)	247
Design, Manufacture and Production Control of a Standard	
Machine	691
Production control (D)	688
Strength of gear teeth (D)	909
Flowers, A. E. Critical pressures in lubricating oil films (D)	880
High-pressure-bearing research (D)	853
Flue-gas analyses in anthracite furnaces	651
Flywheel hubs, proportions of	948
Flywheels inertia and loading stresses in	956
inertia proportions of	963
	1299
Ford Motor Co., powdered-coal furnaces	598
River Rouge plant, boiler tests at	
Foremen, duties of	710
Forms, use of, in manufacturing	684
Formula for unit costs	228
Formula for commercial efficiency	1248
Formulas for temperature distribution in hollow cylinders,	
derivation of	194
Forsman, R. A. Applications of powdered coal to steam boilers	cno
(D)	630
Fourier's equation	162
The state of the s	1300
FRANKLIN, LLOYD J. Effect of Inaccuracy of Spacing on Strength	007
of Gear Teeth	885
Freeman and woodwards tests on white metal bearing alloy at high temperatures (C)	471
French, H. J. Available Data on the Properties of Irons and	4/1
Steels at Various Temperatures399.	530
French's high-temperature tests of metals	363
tests on nickel-steel at high temperatures (C)	409
on money even no mgn temperatures (0/11/11/11/11/11	***

	PAGE
Friction coefficient of perfect oil films (C)	836
formulas, perfect-film	
imperfect film, in bearings	838
of oil engines (C)	1056
Fuel consumption of oil engines (T)	1066
cost of energy of	
efficiencies	
mixtures, gas-engine	212
pulverized, see Powdered coal.	
resources of United States	541
Fuels, cost of (T)	
Funk, Nevin E. Properties of metals at high temperatures	
(D)	521
3-7	
Furnace, powdered coal	595
Furnaces, anthracite	639
steam boiler, water-cooled598, 631	, 636
Gantt chart	688
Gas analyses in anthracite furnaces	651
blast-furnace, analyses of (T)	211
coke-oven	213
Gas engines, compression pressures in	. 224
corrosion	. 225
cylinders, material for	223
fuel mixtures	212
igniters	214
in steel industry	209
mean effective pressures (T)	213
methods of governing	210
pistons	216
tests	220
valve gear in relation to gas analysis	211
Gas turbines	1095
calculated performance of	1007
efficiences of	1105
entropy chart for	1121
overall efficiency of	1101
practical limitations of	1100
Gases, fuel, cost of energy in (C)	1254
Gatewood, R. D. Large oil engines (D)	1091
Gears, charts for, Saurer	889
helical, side thrust in	937
Maag	888
teeth of, effect of spacing on strength	885
tests of	885
velocity coefficients for	907

P	AGE
Generator rotor, stresses in	961
GILBRETH, FRANK BUNKER, obituary 1	300
Governing of gas engines	210
	302
Groat, B. F. Intakes for power plants (D)	158
	423
Guillet and Revillon, impact tests of metals at high tempera-	
tures	386
impact tests on steel at high temperatures (C)	417
Gun metal, high-temperature tensile properties (C)442,	443
Hadfield's tests on steels at high temperatures (C)	106
HAGEMANN, G. E. Design, manufacture and production control	
of a standard machine (D)	725
HAGLUND, GUSTAV, obituary	303
Hall, Burton P., obituary 13	303
HALL, EDWIN A., obituary	303
	304
	304
	304
	370
Hardness, Ludwik cone test for	504
	171
of copper alloys at high temperatures	172
of copper-nickel alloy at high temperatures (C)455, 456, 4	
of delta metal at high temperatures (C)	
of ferro-cupralium at high temperatures (C) 4	172
of gun metal at high temperatures (C)442, 4	172
of iron and steel at high temperatures (C) 4	
of manganese bronze at high temperatures (C)444, 445, 4	72
	172
of Muntz metal at high temperatures (C)448, 4	
	172
	172
	172
	172
	71
	191
HARPER, JOHN LYELL, obituary	
HARRIS, GLENN B., obituary	
The state of the s	256
Hartness flat turret lathe, manufacture of	193
HEALD, J. N. Design, manufacture and production control of a	
	22
Heat, diffusion of	42

	PAGE
Heat balance of evaporation	742
Heat-generation rates of oil engines	1068
Heat-resisting alloy, development of	427
Heat transmission, coefficient of	768
Heating of bearings	844
HELANDER, LINN. Resuperheating in steam turbines (D)	584
HENN, EDWIN C., obituary	1306
HENSON, WALTER A., obituary	
Hersey, M. D. Critical pressures in lubricating-oil films (D)	879
Graphical study of journal lubrication (D)	829
High-pressure-bearing research (D)	
HEYMANS, PAUL. Vibrations in steam-turbine disk wheels (D)	
High temperatures, alternating-stress tests at	
compressive resistance of copper-zinc alloys at (C) 452	, 453
effect of, on torsional properties of metals and alloys at	487
(C)473, 474	
effect on elongation of nickel alloys (C)	462
effects on elastic modulus of steel (C)	405
extensometer, for use at	
flow tests of steel at (C)	419
hardness of steel at (C)	414
hardness tests of metals at	391
impact tests at	386
impact tests of steel at (C)	417
industrial applications of metals at	351
long-time tests of metals at	394
metallic oxidation at	
The state of the s	425
oxidation of steel at	
	446
properties of aluminum bronze at (C)	447
properties of copper at	436
properties of copper-nickel alloy at (C)	
properties of copper-nicket andy at (C)	440
properties of gun metal at (C)	442
properties of iron and steel at	399
properties of medium carbon steel at	489
properties of metals at, bibliography	477
properties of non-ferrous metals and alloys at	433
properties of tungsten at	
stress-strain relations of carbon steel at (C)	404
structural changes in alloys at	397
tensile properties of aluminum at (C)	467
tensile properties of aluminum alloy at (C) 468, 469,	
tensile properties of bearing-metal alloy at (C)	471

PAGE	
tensile properties of brass at (C)	
tensile properties of carbon steel at (C) 406	
tensile properties of cast iron at (C)	
tensile properties of cast steel at (C)	
tensile properties of chromium steels at (C) 407	
tensile properties of Davis metal at (C)	
tensile properties of delta metal at (C)	
tensile properties of firebox steel at (T) 401	
tensile properties of high-speed steels at (C) 410	
tensile properties of leaded brass at (C)	
tensile properties of malleable iron at (C) 403	
tensile properties of monel metal at (C)463, 464, 465	
tensile properties of Muntz metal at (C) 448	
tensile properties of nickel at (C)	
tensile properties of nickel-steel at (C)	
tensile properties of semi-steel at (C)	
tensile properties of U. S. Navy brass at (C) 459	
tensile properties of U. S. Navy bronze at (C) 458	
tensile properties of white-metal alloy at (C) 471	
time tests of steels at	
torsion tests of metals at	
torsional properties of steel at (C)	
X-ray tests of metals at	
Hill, Anthony S., obituary	
Hirst, Russell Walker, obituary	
Hollerith tabulating machines in cost accounting 803	
Hollow cylinders, derivation of formulas for stress distribution	
in	
temperature and stress distribution in 161	
Holz, Herman A. Properties of metals at high temperatures	
(D) 501	
Hopkinson and Rogers' high-temperature tests on steel 401	
Horstmann, Henry J., obituary	
Horron, John T., obituary	
Hosiery plant, development of a modern	
Howard's high-temperature tests of metals 360	
tests on iron and steel at high temperature 400	
Howarth, H. A. S. Critical pressures in lubricating-oil films	
(D) 881	
Graphical Study of Journal Lubrication 809	
HOYT, SAMUEL. Properties of metals at high temperatures (D). 523	
Hubs, flywheel, proportions of 948	
strength and proportions of929, 941	
Hughes, Howard R., obituary	

PAGE
Huntington's tests of copper-nickel alloy at high temperatures
(C) 456
tests on copper at high temperatures (C)435, 438
tests on copper-tin bronze at high temperatures 440
Hydroelectric operating costs (T)1259, 1267, 1271, 1272, 1274
Hydroelectric plants, intakes for1131
Hydroelectric power, cost of energy of (C) 1256
Hygrometer, accuracy of
Hysteresis in springs 926
Ice diversion, St. Lawrence River Power Co 1158
for power plants
IDDLES, ALFRED. Applications of powdered coal to steam boilers
(D)621, 634
Igniters, gas engine,
ILLMER, LOUIS. High-Pressure-Bearing Research 833
Large oil engines (D)
Impact tests, malleable iron at low temperatures 510
metals at high temperatures
steel at high temperatures (C)
Impeller, rotating, volume delivered by
Incentives in hosiery manufacture
Inspection in manufacturing
Intake at Shawinigan Falls power plant 1161
Intakes for power plants 1131
Intercrystalline deterioration of iron and steel 425
Internal-combustion engines, temperature stresses in
Iron, cast. See Cast iron.
malleable. See Malleable iron.
properties of, at various temperatures
Iron and steel X-ray spectrographs391, 500
Iron in coal, effect on boiler performance
IRVIN, LESLIE A., obituary
Ito's tests on hardness of iron and steel at high temperatures
(C) 414
Jacobson, C. A. Zoelly turbine-driven locomotive (D) 1234
JANN, VICTOR, obituary
JEFFRIES, ZAY. Properties of metals at high temperatures (D) 525
Tests of metals at various temperatures
Tests on copper wire at high temperatures
Johnson, A. F. Zoelly turbine-driven locomotive (D) 1242
JOHNSON, R. D. Economic design of penstocks (D) 1200
Intakes for power plants (D)
JOHNSON, W. W. Resuperheating in steam turbines (D) 582
JONES, HAROLD COLBERT, obituary

	PAGE
JONES, HENRY B. Applications of powdered coal to steam boilers	
(D)	625
Jones, L. B. Zoelly turbine-driven locomotive (D)	1243
JORDAN, J. P. Production control (D)	685
JORGENSEN, O. E. Large oil engines (D)	
Journal lubrication, graphical study of	809
Kasley, A. T. Strength of gear teeth (D)	910
	1309
Keating, T. A. Applications of powdered coal to steam boilers (D)	630
Kellemen, Henry F., obituary	
Keller, J. O. Design, manufacture and production control of a	
standard machine (D)	717
	1310
KENNEDY, WALTER, obituary	1310
Kent, Robert T. Production control (D)	687
KIDDER, WALTER M. Design, manufacture and production control	
of a standard machine (D)	719
KNERR, DAN G., obituary	1311
Knitting, standardization of methods	.794
Knitting mill, production control in	790
Knowlton, Edgar. Centrifugal fans for electrical machinery (D)	344
KREISINGER, HENRY. Review of Recent Applications of Pow-	
dered Coal to Steam Boilers	595
Kruse, O. V. Economic design of penstocks (D)	1189
Kürth's tests on copper at high temperatures	443
tests on hardness of steels at high temperatures (C)	414
Labor turnover of a hosiery plant (C)	783
LANE, HENRY M. Mercury vapor process (D)	283
Langenberg's impact tests of metals at high temperatures	386
impact tests on alloy steels at high temperatures (C)	418
LANSBURGH, R. H. Design, manufacture and production control	
of a standard machine (D)	731
Lathe, Hartness flat turret, manufacture of	693
LAUDER, A. R. K., obituary	1311
LAWRENCE, JOHN H. Applications of powdered coal to steam boilers (D)	631
Lea's tests on aluminum alloy at high temperatures (C)	468
tests on copper-nickel alloy at high temperatures (C)	455
tests on delta metal at high temperatures (C)	454
tests on gun metal at high temperatures (C)	442
tests on hardness of copper alloys at high temperatures (C)	
tests on manganese bronze at high temperatures (C) 444,	
tests on monel metal at high temperatures (C)	465

	PAGE
tests of Muntz metal at high temperatures (C)	448
tests on nickel and chrome-nickel at high temperatures (C).	461
tests on phosphor bronze at high temperatures (C)	441
Le Blant's tests of copper at high temperatures (C)	438
Le Chatelier's high-temperature tests of metals	361
tests on elongation of nickel at high temperatures (C)	462
Lessells, J. M. Critical pressures in lubricating-oil films (D)	878
Lester, H. H. Properties of metals at high temperatures (D).	500
LEVIN, ARVID M., obituary	1311
Lewis' equations for diffusion of heat	742
Lewis, Wilfred. Strength of gear teeth (D)	911
Lincoln, J. C. Properties of metals at high temperatures (D)	519
LINDSAY, DANIEL C. Temperatures of Evaporation of Water	
into Air	779
Liners, internal-combustion-engine cylinder, stress distribution	
in (C)184,	189
LINSLEY, LEONARD N. Investigation of the Critical Bearing	
Pressures Causing Rupture in Lubricating-Oil Films	855
	1187
Loading charts of partial bearings (C)820, 823,	824
Locomotive, condensing	1205
Locomotive tests (T)	1228
Locomotive wheel centers, counterbalance of	953
LOEFFLER, FRITZ K. Mechanical springs (D)	925
Losses, steam-boiler, with powdered coal (C)	622
Lot sizes, determination of	674
Low, Fred R. Biographical note	5
Power Resources, Present and Prospective	535
Lowe, James R., obituary	1312
	1128
Lubrication, critical pressures in	855
effect on, of oleic acid	874
journal, graphical study of	809
of high-pressure bearings	833
LUCKE, CHARLES EDWARD. Large Oil Engines, with Special	
Reference to the Double-Acting Two-Cycle Type	1005
Value of Efficiency in Transforming and Distributing	
	1245
Ludwik's cone test for hardness	504
tests on copper at high temperatures	443
LUKE, G. E. Centrifugal fans for electrical machinery (D)	342
LUNDGREN, EDWIN. Applications of powdered coal to steam	
boilers (D)	634
Maag gears, tests of	888
MACGILL, CHARLES F., obituary	

I	AGE
Machine, standard, design, manufacture and production control	
of	691
Machine shop, arrangement of	698
standard vs. special machinery in	234
Machine-hour cost finding	690
Machine-shop operations, unit cost of	228
problem, analysis of	227
	1313
MacPherran, R. S. Properties of metals at high temperatures (D)	517
MacPherran's high temperature tests of metals	373
tests on high-speed-steels at high temperatures (C)	410
tests on nickel steel at high temperatures (C)	409
Maintenance, shop	684
Malcolm, V. T. Methods of Testing at Various Temperatures	
and Their Limitations	529
Malcolm's high-temperature tests of metals	378
tests on cast steel at high temperatures (C)	411
tests on Davis metal at high temperatures (C)	466
tests on monel metal at high temperatures (C)	464
Malleable iron, high-temperature tensile properties of (C)	403
impact resistance at low temperatures	510
	1020
Management, production	667
Manganese bronze, high temperature effects on torsional proper-	
ties of (C)	474
tensile properties at high temperatures (C)444,	445
Manganese-nickel alloy	430
Manganese-nickel steel, torsional properties at high tempera-	-
tures (C)	412
Manufacture of knit goods	790
of a standard machine.	691
Manufacturing, classification of	668
departmentalization in	698
despatching in	683
determination of lot sizes	674
determination of operating times	681
duties of foremen	710
efficiency of	669
elements of preplanning	670
forms in	684
inspection	683
overhead in	728
MARKS, LIONEL S. Gas Turbines	1095
Mercury-vapor process (D)	278
MARMON, FRANKLIN H., obituary	

MARSH, KIRTLAND. Properties of metals at high temperatures
(D) 505
Marx, Guido H. Strength of gear teeth (D) 900
Martens' high-temperature tests of metals 360
Mascall, Ernest, obituary
Mathews, John A. Properties of metals at high temperatures
(D) 526
Maw, W. H., obituary
MAY, DE COURCY, obituary
MAY, HARRY C., obituary
McDowell, Elmer K., obituary
Meade, Norman G., obituary
Mean effective pressures, gas-engine (T)
Measurement of static pressure
MEIER, CHARLES. Design, manufacture and production control
of a standard machine (D)
Mellin, Carl J., obituary
Mercury boiler
condenser
Mollier chart for
Mercury-vapor cycle, efficiency of (C)
Mercury-vapor process, Emmet
Mercury-vapor turbine
Metals, bibliography of high-temperature properties
effect of temperature on properties of
fatigue of, at high temperatures389, 508
high-temperature alternating-stress tests of
high-temperature hardness tests of
high-temperature long-time tests of393, 495, 501, 518
high-temperature torsion tests of
impact tests of, at high temperatures
industrial applications of, at high temperatures 351
Ludwik cone test for hardness of
methods of testing at high temperatures
non-ferrous, properties at various temperatures 433
oxidation of, at high temperatures
X-ray high-temperature tests of
Meter, Thomas
Thomas, equations for
Microstructure of phosphor bronze at high temperatures 514
of steel at high temperatures
MILLER, FRED J. Production control (D)
MILLER, SPENCER. Zoelly turbine-driven locomotive (D) 1241
Mills, powdered-coal
powdered coal, tests of
Mirk, Thomas, obituary
Mixtures, gas-engine fuel
Wilxtures, gas-engine fuel

	PAGE
Mochel, N. L. Properties of metals at high temperatures (D).	514
Modulus of elasticity, formula for	497
of steel, effect of temperature on (C)	405
Mollier chart for mercury	
Monel metal, hardness at high temperatures (C)	
high-temperature tensile properties of (C)463, 464	, 465
Moody, Lewis F. Economic design of penstocks (D)	1201
MOORE, H. E. Properties of metals at high temperatures (D)	508
Moore, H. F. Critical pressures in lubricating-oil films (D)	876
Vibrations in steam-turbine disk wheels (D)	143
Moore, James Leonard, obituary	1317
Moss, Sanford A. Centrifugal fans for electrical machinery (D)	
Properties of metals at high temperatures (D)	520
Motorship Fritz, oil engine for	1019
	1317
Mumford, A. R. Burning of anthracite (D)	
Muntz metal, high-temperature tensile properties of (C)	448
National Physical Laboratory high-temperature tests of metals	376
Necrology	1287
New York Steam Corporation, experiments in buring anthra-	
cite	658
Nickel, high-temperature tensile properties (C)460,	461
Nickel alloys, effect of temperature on elongation (C)	462
Nickel-aluminum alloy	430
Nickel-chrome alloy, high-temperature tensile properties (C)	461
Nickel-chromium-iron alloy, effect of temperature on (C)	431
Nickel-chromium steel, effect of time of loading on strength at	
high temperatures	420
flow under load at high temperatures (C)	419
oxidation of, at high temperatures (C)	426
impact tests on, at high temperatures (C)	418
Nickel-manganese alloy	430
Nickel-silicon steel, modulus of elasticity at high temperatures	405
Nickel steel, high-temperature tensile properties (C)	409
impact tests on, at high temperatures (C)	418
oxidation at high temperatures (C)	426
torsional properties at high temperatures (C)	412
Nickel-vanadium steel, torsional properties at high tempera-	
tures (C)	412
Nicro-copper, hardness at high temperatures (C)	472
Nitrogen, fixation of, metals for	
Nominating Committee of the Society	10
Non-ferrous metals, properties at various temperatures	433
NORDBERG, BRUNO V., obituary	
North British rodless-type oil engine	1017

	PAGE
Nourse, Franklin, obituary	1318
Nozzle efficiency, investigation of	981
Obituaries	1287
Officers of the Society	7
Oil engine, Augsburg horizontal tandem double-acting type	1018
Blohm & Voss vertical double-acting two-cycle	1019
compound (I)	1074
double-acting, two-cycle	1005
Doxford Junkers two-cycle	1016
M. A. N. vertical, double-acting, two-cycle	1020
North British rodless type	1017
two-cycle, Cammellaird-Fullagar (I)1012,	1013
Worthington double-acting two-cycle	1021
Oil engines, bibliography of	1072
crosshead pressures (C)	1032
dimensions of (T)	1024
forces and weights in	1028
forces in (T)	1042
frame loads (C)	1030
friction of (C)	1056
fuel consumption (T)	1066
heat flow in	1083
heat-generation rates	1068
indicated mean pressures in	1009
indicated mean pressures of, in relation to oxygen in ex-	
haust (T)	1046
inertia and centrifugal forces in (T)	1044
main bearing pressures (C)	1034
mechanical efficiencies of (C)	1056
metal protection in	1068
operating costs of (T)1259, 1266, 1270, 1282,	1283
performance of	1041
thermal efficiencies of (T)	1066
turning efforts (C)	1035
weights of1009,	
weights per horsepower, formulas for	1029
wristpin bearing pressures (C)	1031
Oil films, lubricating, critical pressures in	855
Oil fuels, cost of (T)	1251
Oils, lubricating, characteristics of (T)	865
lubricating, effect on, of oleic acid	874
Oleic acid, effect on lubricating oils	874
O'Neil, John Gerald, obituary	1319
Operation analyses	680
Organization of a hosiery plant	783

PAGE
Organization of the Society 7
ORR, BURTON S., obituary
Orrok, George A. Properties of metals at high temperatures (D) 521
Oscillograph records of disk-wheel vibration
OSTEMAN, CARL G., obituary
OTTESEN, FREDERICK. Gas engine in the steel industry (D) 222
Overhead, manufacturing, reduction of
Oxidation, metallic, at high temperatures
of steels at high temperatures 425
PARKER, WALTER E., obituary
Peabody, R. M. Economic design of penstocks (D) 1192
Penn Salt Co., boiler tests with powdered coal609, 616
powdered-coal furnace 595
Penstocks, economic design of
Peterson, Carl H., obituary
Petroleum fuels, cost of (T)
Petroleum refining, temperatures of
Phosphor bronze, high-temperature effects on torsional proper-
ties of (C)
high-temperature properties of (C)
microstructure at high temperatures 514
Photoelastic analysis of disk-wheel stresses 145
Pintle blocks, limiting average pressure for (C) 847
Pistons, gas-engine
Plant, John W., obituary
Plasticity of copper-zinc alloys at high temperatures (C)450, 451
Pope, Joseph. Mercury vapor process (D)
Powdered coal, application to steam boilers 595
boiler losses with (C)
boiler tests with
cost of making steam with
drier for 604
effect of fineness of pulverization on boiler efficiency 629
furnace for, water-cooled
mills for crushing
mills for crushing, tests of
vs. stoker firing for steam boilers(C), 622; 633; 635
POWELL, E. B. Burning of anthracite (D) 663
Power, efficiency of conversion of fuel energy to 543
Power plants, ice diversion for
intakes for
Power resources, present and prospective
Power test code committee report
Preplanning, elements of, in manufacturing
Presidential address
* 10010000000 manifest 1111000000000000000000000000000000000

	PAGI
Pressure, static, measurement of	294
Priester's high-temperature tests of metals	370
Production control	667
graphic	678
in hosiery plant	790
of a standard machine	691
Production schedules	
Proportional limit of carbon steel at high temperatures (C)	406
of chromium steel at high temperatures (C)	407
Psychrometry, wet-bulb errors in	
wet-bulb errors in, with variation of air velocity (T) 76,	
Puffer, S. R. Properties of metals at high temperatures (D) .	511
Pulleys, strength and proportions of	931
Pulverized fuel. See Powdered coal.	
Radiating capacity of bearings	835
	1321
Recoolers for locomotives	1215
Reheaters, construction of (I)	586
REINICKER, N. G. Burning of anthracite (D)	664
	1285
Research, high-pressure-bearing	833
	1285
Resonant frequencies in disk-wheel vibration	126
Resonant speeds in disk wheels, formulas for	128
Resuperheating in steam turbines, increase in efficiency due to	563
Rhode Island anthracite, boiler tests with	611
River Rouge plant, Ford Motor Co., boiler tests at606,	614
powdered-coal furnaces at	598
Robin's tests of crushing strength of steel at high temperatures	
(C)	415
ROBINSON, ERNEST L. Properties of metals at high temperatures	
(D)	522
Rochester Gas & Electric Co., boiler tests with powdered coal. 607,	615
powdered coal furnace at	599
Rockefeller, J. W. Mechanical springs (D)	925
ROESEN, ROBERT H., obituary	-
Rogers, Robert Fletcher, obituary	
ROLLINS, H. T. Development of a Modern Hosiery Plant	781
	961
Rotor, a. c. generator, stresses in	
Routing in manufacturing678,	
Safety code committee report	286
SAGUE, SAMUEL R., obituary 1	322
St. Lawrence River Power Co., ice diversion at 1	158

PAGE
Sand pictures of disk-wheel vibration 46
Saturation, adiabatic
Saturator, adiabatic
Saurer gear charts 889
Sauveur's torsion tests on steel at high temperatures 414
Scaling of steel at high temperatures (C) 426
Scheduling in manufacturing
Schreck, H. Large oil engines (D) 1091
SCHEFFLER, FREDERICK A. Applications of powdered coal to
steam boilers (D)
Schwartz, H. A. Properties of metals at low temperatures (D). 510
Semi-steel, high-temperature tensile properties (C) 402
Setz, Hans R., obituary
Shaw, J. C. Large oil engines (D)
Shawinigan Falls power plant, intake at
Sheldon, L. A. Properties of Mercury Vapor
Shop maintenance 684
SHOUDY, W. A. Applications of powdered coal to steam boilers
(D) 633
Recent Developments in the Burning of Anthracite 639
Silico-manganese steel, modulus of elasticity at high tempera-
tures (C)
SLADE, WALTER C. Applications of powdered coal to steam boilers
(D) 617
SMITH, CHARLES H. Effect of Inaccuracy of Spacing on Strength
of Gear Teeth SS5
SMITH, H. L. Applications of powdered coal to steam boilers
(D)
SMITH, THOMAS C., obituary
Society Affairs 7
SORBER, MILTON P., obituary
Soren, T. H. Mercury-vapor process (D)
Souder's tests on thermal expansion of ferrous metals 423
Spectrograph, X-ray391, 500
Speed-frequency diagrams, disk-wheel vibrations60, 105, 119, 127
Speller, F. N. Properties of metals at high temperatures (D) 509
SPENCER, C. G. Applications of powdered coal to steam boilers 619
Sperry, Elmer A. Large oil engines (D)
Spooner's high-temperature tests of metals
tests on high-speed steel at high temperatures (C) 410
Spring Meeting
Spring, L. W. Industrial Applications of Metals at High Tem-
peratures
Spring's high-temperature tests of metals
tests on alloy steels at high temperatures (C)
tests on aluminum bronze at high temperatures (C)
The state of the s

· ·	PAGE
tests on brass at high temperatures (C)	458
tests on copper-tin bronze at high temperatures (C)	439
tests on monel metal at high temperatures (C)	463
tests on torsional properties of metals under high tempera-	
tures (C)	473
tests on U. S. Navy brass at high temperatures (C)	459
tests of U. S. Navy bronze at high temperatures (C)	458
Springs, design constants	924
hysteresis in	926
mechanical	915
Stainless steel, effect of temperature on proportional limit (C).	431
oxidation at high temperatures (C)	426
tests of, at high temperatures	421
Standardization committee report	1286
Standardization of methods in hosiery plant	794
Standing and Administrative Committees of the Society	8
Static pressure, measurement of	294
Steam, cost of, with powdered coal	613
Steam-boiler furnace, effect of fineness of powdered coal on size	629
hollow wall construction	602
Steam-boiler performance, effect of ash and iron content of coal.	621
effect of baffling	618
with powdered coal vs. stoker firing(C), 622; 633;	635
Steam-boiler tests with anthracite (T)	646
with powdered coal608,	613
Steam boilers, applications of powdered coal to	595
corrosion in, at high temperatures	516
effect of ash on powdered coal installations595,	626
superheat in powdered-coal-fired	635
temperature stresses in	182
water cooled furnaces for	636
Steam turbines, buckets, photoelastic analysis of rupture of	147
bucket, vibration tests of	114
operating costs (T)1259, 1266, 1268, 1270, 1276,	1278
design, application of disk wheel vibration theory83,	
disk wheels, protection from axial vibration	31
See also Disk wheels.	•
increase in efficiency due to resuperheating	563
	981
wheel-testing machine	94
Steel, "blue-brittleness" in	396
carbon, crushing strength at high temperatures (C)	415
carbon, high-temperature tensile properties (C)	406
carbon, impact resistance at high temperature (C)	417
carbon, stress-strain relations at high temperatures (C)	404
cast, tensile properties at high temperatures (C)	411

PAGE
chromium, high temperature tensile properties of (C) 407
effect of temperature on elastic modulus (C) 405
firebox, tensile properties at different temperatures (T) 401
high-speed, high-temperature tensile properties (C) 410
industry, gas engine in
intercrystalline deterioration of 425
medium-carbon, properties at high temperatures 489
microstructure of, at high temperatures 519
nickel, high temperature tensile properties (C) 409
properties of, at various temperatures 399
rephosphorized pipe, properties at high temperatures 509
Steels, alloy, impact tests on, at high temperatures (C) 418
alloy, oxidation at high temperatures (C)
alloy, tensile properties at high temperatures (C)405, 407, 409
alloy, torsional properties at high temperatures 412
carbon, hardness at high temperatures (C)
flow under load at high temperatures (C)
oxidation of, at high temperatures 425
torsional properties at high temperatures (C) 412
Stress-strain relations of carbon steel at high temperatures (C). 404
STIMMEL, FREDERICK C., obituary
STINSON, T. W., obituary
Stock-room control
Stokers vs. powdered coal for steam boilers(C), 622; 633; 635
Stores control
STRAUSS, JEROME. Properties of metals at high temperatures (D) 512
Stress distribution in hollow cylinders
Stresses, temperature, in internal-combustion engines 183
temperature in steam-boilers
Stribeck's high-temperature tests of metals 362
STUREMAN, ROBERT V., obituary
SUMMERS, I. H. Centrifugal fans for electrical machinery (D) 340
Superheat in powdered-coal-fired boilers
Suplee, H. H. Gas turbines (D)
Sykes' tests of metals at various temperatures 384
tests on nickel at high temperatures (C)
SYMONS, W. E. Zoelly turbine-driven locomotive (D) 1243
TAYLOR, ROBERT P. A. Design, manufacture, and production
control of a standard machine (D)
Technical Committee Reports
Temperature, effect of, on properties of metals 349
Temperature distribution, error by approximate formula (C) . 164
in hollow cylinders
in hollow cylinders, derivation of formulas for 194
Temperature-entropy diagram for gas turbines
Temperature-entropy diagram for gas turbines 1122

P	AGE
Temperature stresses, internal-combustion engine cylinders	183
	182
	352
high. See High temperatures.	
	739
, ,	524
Testing of metals at high temperatures	
Tests, alternating-stress at high temperatures388,	
	22 0
	391
high-temperature, long-time, of metals393, 495, 501,	
	386
	510
	228
	287
	885
	646
steam-boiler, with powdered coal	
	981
	391
X-ray, of metals at high temperatures	
	066
Thomas meter Thompson, Sanford E. Development of a Modern Hosiery	291
	=01
	781
Time study Timoshenko, S. Strength and proportions of wheels, wheel	681
	070
	978
	206
	140
Tires, shrinkage stresses in	951
	475
	324
Torsion, effect of high temperature on (C)473, 474,	
	391
	324
a series of a seri	327
	224
	523
	242
	182
Tucker, W. A. Available Data on the Properties of Irons and	
	399
and and the first the second s	525
Tuning of disk wheels	135

PAGE
Turbine, mercury-vapor
Turbines, gas. See Gas turbines.
Turning efforts of oil engines (C)
Uhl, W. F. Economic design of penstocks (D) 1203
Unit Costs, formula for
dered coal
powdered-coal furnace at 602
Unwin's high-temperature tests of metals
UPTHEGROVE, CLAIR. Available Data on the Properties of Non-
Ferrous Metals and Alloys at Various Temperatures 433
Valve gear, gas-engine
Velocity coefficients for gears 907
Vibration, axial, in steam turbine disk wheels
in disk wheels, theory of
in disk wheels, tuning
tests of steam-turbine buckets
Vibrations in disk wheels, interpretation of oscillograph films 130
Wage incentives in hosiery manufacture 796
Wallace, William J., obituary
WARD, J. CARLTON. Analysis of a machine shop problem on a
quantity and final economy basis (D)
WARREN, G. B. Efficiency of turbine nozzles (D) 1000
Increase in Thermal Efficiency Due to Resuperheating in
Steam Turbines
Zoelly turbine-driven locomotive (D)
Water, boiler, corrosive properties at high temperatures 516
Water-cooled boiler furnaces
Water power, cost of energy in (C)
Water powers, operating costs of (T)1259, 1267, 1271, 1272, 1274
WATERS, E. O. Graphical study of journal lubrication (D) 826
Wave-motion in disk wheels40, 53
Wehner, Louis, obituary
Wells, Ralph G. Design, manufacture and production control
of a standard machine (D)
Welter's tests on high-speed steel at high temperatures (C) 410
tests on nickel-steel at high temperatures (C) 409
tests on steel at high temperatures (C)
West Penn Power Co., boiler tests with powdered coal608, 615
powdered-coal furnace at
Westgren's X-ray high-temperature tests of metals391, 500
Wet bulb, effect of radiation on temperature of
error of, with variation of air velocity (T)
errors of, in psychrometric determinations748, 754, 757

INDEX	1359

Page
Wheel centers, compressive stresses in
locomotive, counterbalance of 953
Wheels, locomotive, side thrust in
railway, side thrust in
steam-turbine disk, protection of, from axial vibration 31
See also Disk wheels.
and wheel centers, strength and proportions of 929
WHITE, A. E. Available Data on the Properties of Non-Ferrous
Metals and Alloys at Various Temperatures433, 532
WHITE, JOSEPH J., obituary
White-metal alloy, high-temperature tensile properties of (C) 471
Wilhelm, R. B. Properties of metals at high temperatures (D) 489
WILLIAMS, JOHN H. Design, manufacture, and production con-
trol of a standard machine (D)
Willius, Gustav, Jr., obituary
Wilson, Nelson C., obituary
Winther, Charles A. G., obituary
Wirt, H. Loring. Experimental Investigation of Nozzle Effi-
ciency
Wohlenberg, W. J. Applications of powdered coal to steam
boilers (D)
Wood, Joseph Kaye. Mechanical Springs. 915
Workers, selection and training of
Worthington double-acting two-cycle oil engine
Wristpin bearing pressures in oil engines (C)
WYNNE, THOMAS A., obituary
X-ray spectrograph
X-ray tests of metals at high temperatures
12-ray tests of metals at high temperatures
YATER, JOHN ALLEN, obituary
Younger, John. Analysis of a Machine-Shop Problem on a
Quantity and Final-Economy Basis (D) 246
Zoelly, H. The Zoelly Turbine-Driven Locomotive 1205
Zoelly turbine-driven locomotive
Mothy turbine-driven focomotive

REFERENCES TO 1924 PAPERS, ARTICLES, AND REPORTS NOT PUBLISHED IN THIS VOLUME

NOTE

Below will be found an alphabetical list of (a) 1924 Spring and Annual Meeting papers not included in this volume but published in Mechanical Engineering, or, in a few cases, in Refrigerating Engineering; (b) of papers presented before sections of the Society and published in Mechanical Engineering; and (c) of other leading articles and technical reports published in Mechanical Engineering during 1924.

Accident-prevention movement, general discussion of. Mechanical Engineering, vol. 47, Jan. 1925, p. 34

Aerial bombing. Mechanical Engineering, vol. 46, June 1924, p. 309 Aerial surveying, equipment used for. Mechanical Engineering, vol. 47, Mar. 1925, p. 170

Airplanes, metal, design for large-scale production. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 733

ALDRICH, W. H. Pulverized Fuel at Cleveland Electric Illuminating Company's Lake Shore Plant. Mechanical Engineering, vol. 46, Sept. 1924, p. 519

ALEXANDER, MAGNUS W. Industry's Interest in Industrial Training. Mechanical Engineering, vol. 47, Feb. 1925, p. 94

Alloys for die casting. Mechanical Engineering, vol. 46, Nov. 1924, p. 663

Apprenticeship, modern, need for district organization of. Mechanical Engineering, vol. 47, Feb. 1925, p. 96

ARMSTRONG, A. H. Development of the Electric Locomotive. Mechani-

cal Engineering, vol. 46, Oct. 1924, p. 608 Armstrong, Edwin J. Machining Massive Parts of the World's Largest Prime Movers. Mechanical Engineering, vol. 46, May 1924, p. 263 Automobile-body plant, lumber handling in. Mechanical Engineering,

vol. 46, Aug. 1924, p. 472 Automobiles, assembly of, materials-handling problems encountered in.

Mechanical Engineering, vol. 46, June 1924, p. 339 AZBE, VICTOR J. Water-Cooling-System Efficiency. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 799

BANNISTER, BRYANT. Power Organization in the Steel Industry. Mechanical Engineering, vol. 46, May 1924, p. 248

BARNARD, NORRIS CLEMENTS. Die Casting. Mechanical Engineering. vol. 46, Nov. 1924, p. 661

BARUCH, BERNARD M. Address at Spring Meeting. Mechanical Engineering, vol. 46, July 1924, p. 375

BECKETT, C. A. Foreign Progress in Cutting Metals. Mechanical Engineering, vol. 46, Oct. 1924, p. 618

BEGEMAN, M. L. Fundamental Economies of Materials. Handling. Mechanical Engineering, vol. 46, July 1924, p. 405

Berg, Eskil. Modern Tendencies in Steam-Turbine Power Plants. Mechanical Engineering, vol. 46, Oct. 1924, p. 577-

Blood, B. H. Some Limitations on Manufacturing to Close Limits. Mechanical Engineering, vol. 46, Apr. 1924, p. 186

Boiler Code. Addenda to. Mechanical Engineering, vol. 46, Apr. 1924,

Interpretations of Code in Cases submitted to Committee. Mechanical Engineering, vol. 46, Mar. 1914, p. 161; Apr. p. 224; June, p. 365; July, p. 427; Aug. p. 497; Sept. p. 565; Dec. p. 923

Proposed Rules for the Inspection of Material and Boilers. Mechani cal Engineering, vol. 46, Feb. 1924, p. 100

Report on Code for Unfired Pressure Vessels. Mechanical Engineering, vol. 46, Dec. 1924, p. 916

Revisions of. Mechanical Engineering, vol. 46, Feb. 1924, p. 103 Boiler furnaces for small sizes of anthracite. Mechanical Engineering. vol. 46, Mar. 1924, p. 138

Boiler plants, steel-works, data on representative. Mechanical Engineering, vol. 46, June 1924, p. 328

Boiler scales. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 811 Boilers, A.S.M.E. Code for. See Boiler Code.

combustion control for. Mechanical Engineering, vol. 46, Oct. 1924, p. 590

inspection, rules for. Mechanical Engineering, vol. 46, Feb. 1924, p. 100

oil firing of. Mechanical Engineering, vol. 46, Mid-Nov. 1924, pp. 769 and 849

proposed rules for inspection of materials and boilers. Mechanical Engineering, vol. 46, Feb. 1924, p. 100

Bombing, aerial. Mechanical Engineering, vol. 46, June 1924, p. 309 Brashear, John A. Review of autobiography. Mechanical Engineering,

vol. 46, Sept. 1924, p. 511 BRIDGMAN, P. W. Properties of Matter under High Pressure. Me-chanical Engineering, vol. 47, Mar. 1925, p. 161

British machine-tool design. Mechanical Engineering, vol. 46, July 1924,

p. 395 BUCKINGHAM, EARLE. Shop Measurements. Mechanical Engineering,

vol. 46, Sept. 1924, p. 535 BUCKINGHAM, EDGAR. Research in Heat Transmission. Mechanical Engineering, vol. 46, July 1924, p. 386

Burlingame, Luther D. Standardization Versus Individuality. Mechanical Engineering, vol. 46, Sept. 1924, p. 529

CARNS, EDMUND BURKE. Production Airplanes of Metal. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 733

Central stations, oil burning in. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 849

CHASON, D. H. Comparative Methods of Tool Design. Mechanical Engineering, vol. 46, Sept. 1924, p. 531

Coal, carbonization of. Mechanical Engineering, vol. 46, June 1924, pp. 329 and 389

classification for. Mechanical Engineering, vol. 46, Sept. 1924, p. 562 fuel, test code for. See Power Test Codes

pulverized, systems for using, hazards of. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 783

storage of. Report of F.A.E.S. Committee. Mechanical Engineering. vol. 46, Aug. 1924, p. 498

testing, instruments required for. Mechanical Engineering, vol. 46, Sept. 1924, p. 561

Condensing apparatus, test code for. See Power Test Codes

CONRAD, W. L. Control of Idleness in Industry. Mechanical Engineering, vol. 46, July 1924, p. 402

Cox, A. B. Limiting Cases in Involute Spur Gearing. Mechanical Engineering, vol. 46, Nov. 1924, p. 683

CUSHMAN, FRANK. Training for Industry and the Public Program of Vocational Education. Mechanical Engineering, vol. 47, Feb. 1925, p. 98

Cutting metals, foreign progress in. Mechanical Engineering, vol. 46, Oct. 1924, p. 618

DAVIS, DWIGHT F. Address at Spring Meeting. Mechanical Engineering, vol. 46, July 1924, p. 378

Engineering Problems of National Defense. Mechanical Engineering, vol. 47, Jan. 1925, p. 33

DAVIS, HARVEY N. Progress Report on the Joule-Thomson Effect.

Mechanical Engineering, vol. 47, Feb. 1925, p. 107
DEBLOIS, LEWIS A. A Place for Safety. Mechanical Engineering, vol.

47, Jan. 1925, p. 34
DENISON, M. R. Material-Handling Problems Encountered in the Assembly of Automobiles. *Mechanical Engineering*, vol. 46, June 1924,

n 330

DICKSON, T. C. X-Ray Examination of Metals at the Watertown Arsenal, Watertown, Mass. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 773

Die casting. Mechanical Engineering, vol. 46, Nov. 1924, p. 661

Dies for die-casting machines. Mechanical Engineering, vol. 46, Nov. 1924, p. 665

for production of sheet-metal parts. Mechanical Engineering, vol. 46, Sept. 1924, p. 531

Dobbin- A Repair Shop Affoat. Mechanical Engineering, vol. 46, Apr. 1924, p. 173

DONALD, H. G. Fuel-Oil Burning in the United States Navy. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 769

Drop forgings, production and cost of. Mechanical Engineering, vol. 46, May 1924, p. 241

DUBRUL, ERNEST F. Forecasting Demand for Industrial Equipment. Mechanical Engineering, vol. 46, Sept. 1924, p. 539

Education, vocational, public program of. Mechanical Engineering, vol. 47, Feb. 1925, p. 98

Electric locomotives. See Locomotives, electric

ELY, SUMNER B. Industrial Power of the Pittsburgh District outside that of the Iron and Steel Industry. Mechanical Engineering, vol. 46, Dec. 1924, p. 861

Fairmount pumping station and heating plant, Cleveland, Ohio. Mechanical Engineering, vol. 46, Dec. 1924, p. 866

Feedwater treatment for continuous steam production. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 810

FLEMING, H. H. The Storage and Handling of Fuel Oil in Industrial Plants. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 771

Flow of fluids in pipes, factors influencing friction, velocity distribution, and heat transmission for. Refrigerating Engineering, vol. 11, Feb. 1925, p. 279

Flue gases, test for solids in. Mechanical Engineering, vol. 46, Sept. 1924, p. 562

Forgings, heavy, production of. Mechanical Engineering, vol. 46, May 1924, p. 241

vanadium-steel, production of. Mechanical Engineering, vol. 46, May 1924, p. 241

FROMMELT, H. A. Need for District Organization of Modern Apprenticeship. Mechanical Engineering, vol. 47, Feb. 1925, p. 96

Fuel oil, storage and handling in industrial plants. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 771
Fuels, solid, test code for. See Power Test Codes

Gas producers, test code for. See Power Test Codes

Gasoline, cracking processes used in manufacture of. Mechanical Engineering, vol. 46, Dec. 1924, p. 879

Gear pinions, rotating, mathematical theory of dynamic stresses in. Mechanical Engineering, vol. 46, Oct. 1924, p. 583

Gears, involute spur, limiting cases in. Mechanical Engineering, vol. 46, Nov. 1924, p. 683

Standardization of involute. Mechanical Engineering, vol. 46, Sept. 1924, p. 572

Governors, speed-responsive, test code for. See Power Test Codes Graphic control of textile-mill raw materials. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 841

HALE, T. LAURENCE. Ramsay Condensing Turbo-Electric Locomotive. Mechanical Engineering, vol. 47, Apr. 1925, p. 235

HALL, R. E. Water Treatment for Continuous Steam Production. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 810

Hardness tester, Herbert, comparison with other testers. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 818

 HAYNES, HASBROUCK. Manit System of Measuring and Stimulating Labor Effort. Mechanical Engineering, vol. 46, Dec. 1924, p. 896
 Heat exchangers, economic features in design of. Mechanical Engineering, vol. 46, Dec. 1924, p. 891

Heat insulation, definitions and nomenclature in. Refrigerating En-

gineering, vol. 10, Oct. 1923, p. 133

insulation, heat losses through. Mechanical Engineering, vol. 46, Oct. 1924, p. 593

insulation, in refrigerating field, data on. Refrigerating Engineering, vol. 10, June 1924, p. 452 transmission, research in. Mechanical Engineering, vol. 46, July 1924,

p. 386 Heilman, R. H. Heat Losses through Insulating Materials. Mechanical

Engineering, vol. 46, Oct. 1924, p. 593
 Helicopters, aerodynamic and constructive data. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 739

Herbert pendulum hardness tester compared with others. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 818

HEYMANS, PAUL. Mathematical Theory of Dynamic Stresses in Rotating Gear Pinions. Mechanical Engineering, vol. 46, Oct. 1924, p. 582

HILDEBRAND, R. Solid-Injection Oil Engines. Mechanical Engineering, vol. 47, Apr. 1925, p. 261

HOBLEY, A. H. Aerial Bombing. Mechanical Engineering, vol. 46, June 1924, p. 309

HUNTER, JOHN A. Generation and Utilization of Steam in the Iron and Steel Industry. Mechanical Engineering, vol. 46, June 1924, p. 325

Hydraulic turbines, large, machining easings for. Mechanical Engineering, vol. 46, May 1924, p. 263

Idleness in industry, control of. Mechanical Engineering, vol. 46, July 1924, p. 402

Industrial mobilization planning, rôle of engineer in. Mechanical Engineering, vol. 46, Nov. 1924, p. 693

Industrial training, industry's interest in. Mechanical Engineering, vol. 47, Feb. 1925, p. 94 Industry, idleness in, control of. Mechanical Engineering, vol. 46, July 1924, p. 402

training for. Mechanical Engineering, vol. 47, Feb. 1925, p. 98

INGLIS, H. B. Aerial Bombing. Mechanical Engineering, vol. 46, June 1924, p. 309

Insulating materials, heat losses through. Mechanical Engineering, vol. 46, Oct. 1924, p. 593

Involute spur gearing, limiting cases in. Mechanical Engineering, vol. 46, Nov. 1924, p. 683

Iron and steel industry, generation and utilization of steam in. Mechanical Engineering, vol. 46, June 1924, p. 325

JACOBUS, D. S. Stimulation of Research and Invention. Mechanical Engineering, vol. 46, Oct. 1924, p. 575

JOHNSON, C. M. Manufacture of Gasoline by the Cracking of Heavier Oils. Mechanical Engineering, vol. 46, Dec. 1924, p. 879

JONES, GEORGE F. Ramsay Condensing Turbo-Electric Locomotive. Mechanical Engineering, vol. 47, Apr. 1925, p. 235

Joule-Thomson effect, progress report on. Mechanical Engineering, vol. 47, Feb. 1925, p. 107

KEENAN, J. H. Steam Table Research Reports, Discussion of. Mechanical Engineering, vol. 47, Mar. 1925, p. 174

Keller, J. O. Comparison of Herbert Pendulum Hardness Tester with Other Hardness Testers. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 818

Key stock, shafting, standard sizes for. Mechanical Engineering, vol. 46, Feb. 1924, p. 107

KEYES, FREDERICK G. Report on Progress in Steam Research at the Massachusetts Institute of Technology. Mechanical Engineering, vol. 47, Feb. 1925, p. 105

KLEINSCHMIDT, R. V. Report of Progress in Steam Research at Harvard University. Mechanical Engineering, vol. 47, Feb. 1925, p. 104
KLEMIN, ALEXANDER. An Introduction to the Helicopter. Mechanical

Engineering, vol. 46, Mid-Nov. 1924, p. 739

Length, correlation of English and metric standards of. Mechanical Engineering, vol. 46, Sept. 1924, p. 535

measurements. Mechanical Engineering, vol. 46, Sept. 1924, p. 535
Lewis, Herbert B. Ruling Line Standards. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 796

Lewis, Nathan E. Oil Burning in Industrial-Plant and Central-Station Service. *Mechanical Engineering*, vol. 46, Mid-Nov. 1924, p. 849

Line standards, ruling. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 796.

Locomotives, Electric, development of. Mechanical Engineering, vol. 46, Oct. 1924, p. 608

electric, recent developments in. Mechanical Engineering, vol. 46, Sept. 1924, p. 523

turbo-electric, Ramsay. Mechanical Engineering, vol. 47, Apr. 1925, p. 235

LUDY, L. V. Test of a Prosser-Type Reciprocating Steam Engine. Mechanical Engineering, vol. 47, Apr. 1925, p. 249

Lumber handling in an automobile-body plant. Mechanical Engineering, vol. 46, Aug. 1924, p. 472

Machine shop, floating, for U. S. Navy. Mechanical Engineering, vol. 46, Apr. 1924, p. 173 Machine-tool industry, export problems of. Mechanical Engineering. vol. 46, Apr. 1924, p. 184

forecasting demand for products of. Mechanical Engineering, vol. 46. Sept. 1924, p. 539

standardization vs. individuality in. Mechanical Engineering, vol. 46. Sept. 1924, p. 529

Machine tools, British, examples of modern. Mechanical Engineering, vol. 46, July 1924, p. 395

Machining large cast-steel hydraulic-turbine casings. Mechanical Engineering, vol. 46, May 1924, p. 263

MACMORLAND, E. E. Rôle of the Engineer in Industrial Mobilization Planning. Mechanical Engineering, vol. 46, Nov. 1924, p. 693

MAKER, FRANK L. Economic Features of Heat-Exchanger Design. Mechanical Engineering, vol. 46, Dec. 1924, p. 891
Management, shop, quotations from Taylor's work on. Mechanical

Engineering, vol. 46, Mid-Nov. 1924, p. 806

Manit system for measuring and stimulating labor effort. Mechanical Engineering, vol. 46, Dec. 1924, p. 896

Manufacturing to close limits, limitations on. Mechanical Engineering, vol. 46, Apr. 1924, p. 186

Materials handling, fundamental economies of. Mechanical Engineering. vol. 46, July 1924, p. 405

in an automobile-body plant. Mechanical Engineering, vol. 46, Aug. 1924, p. 472

in assembling automobiles, problems encountered in. Mechanical Engineering, vol. 46, June 1924, p. 339

Materials, rupture under high pressures. Mechanical Engineering, vol. 47, Mar. 1925, p. 161

Matter under high pressure, properties of. Mechanical Engineering, vol. 47, Mar. 1925, p. 161

McAdams, W. H. Some Factors Influencing Friction, Velocity Distribution, and Heat Transmission. for Fluids Flowing inside Pipes. Refrigerating Engineering, vol. 11, Feb. 1925, p. 279

McFarland, Earl. Manufacture of the Bolt of the Springfield Rifle. Mechanical Engineering, vol. 46, Aug. 1924, p. 463

Measurements, shop, accuracy and purposes of. Mechanical Engineering, vol. 46, Sept. 1924, p. 535

Measuring machines, end, ruling line standards for. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 796

Metals, X-ray examination of. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 773

MUELLER, E. F. Definitions and Nomenclature in Insulation. Refrigerating Engineering, vol. 10, Oct. 1923, p. 133

MUMFORD, A. R. Furnaces for Burning Small Sizes of Anthracite. Mechanical Engineering, vol. 46, Mar. 1924, p. 138

NAGELVOORT, B. Lumber Handling in an Automobile-Body Plant. Mechanical Engineering, vol. 46, Aug. 1924, p. 472

National defense, engineering problems of. Mechanical Engineering, vol. 47, Jan. 1925, p. 33

NAUMBURG, ROBERT E. Development of the Spinning Frame. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 825

Naval vessels, oil burning on. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 769

NEWELL, H. E. Hazards of Industrial Oil Burning. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 765 Hazards of Pulverized-Fuel Systems. Mechanical Engineering, vol. 46,

Mid-Nov. 1924, p. 783

Nicholls, Percy. Heat-Insulation Data in the Refrigerating Field. Refrigerating Engineering, vol. 10, June 1924, p. 452

Temperature Measurements. Refrigerating Engineering, vol. 10, Dec. 1923, p. 225

Oil burning, in industrial plants and central stations. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 849

in the U. S. Navy. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 769

industrial, hazards of. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 765

Oil engines, solid-injection, recent developments in. Mechanical Engineering, vol. 47, Apr. 1925, p. 261

Oil, fuel, storage and handling in industrial plants. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 771

Ordnance, design of, problems in. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 774

matériel, design of. *Mechanical Engineering*, vol. 46, Dec. 1924, p. 887

Orrok, George A. Report of Executive Committee of the Steam Table Research Fund. Mechanical Engineering, vol. 47, Feb. 1925, p. 103

Osborne, Nathan S. Direct Measurement of the Heat Content of Superheated Steam. *Mechanical Engineering*, vol. 46, Mid-Nov. 1924, p. 808

Report on Progress in Steam Research at the Bureau of Standards. Mechanical Engineering, vol. 47, Feb. 1925, p. 106

PALM, ROBERT. Hazards of Pulverized-Fuel Systems. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 783

PANCRATZ, F. J. Wind Power for Farm Electric Plants. Mechanical Engineering, vol. 46, Nov. 1924, p. 675

PEDERSEN, J. D. Design of Ordnance Matériel. Mechanical Engineering, vol. 46, Dec. 1924, p. 887

Perry, Thomas D. Lumber Handling in an Automobile-Body Plant.

Mechanical Engineering, vol. 46, Aug. 1924, p. 472

Peters, C. G. Ruling Line Standards. Mechanical Engineering, vol. 46,
 Mid-Nov. 1924, p. 796
 Petroleum resources of America, conservation of. Mechanical Engineer-

ing, vol. 47, Jan. 1925, p. 5
Pigott, R. J. S. Combustion Control for Boilers. Mechanical Engineer-

ing, vol. 46, Oct. 1924, p. 590

Pittsburgh district, data on industrial power of. Mechanical Engineer-

ing, vol. 46, Dec. 1924, p. 861
Planers, use of sine bar for setting head and tools. Mechanical Engineering, vol. 46, June 1924, p. 245

gineering, vol. 46, June 1924, p. 345
POWELL, A. R. Practical Coal Carbonization. Mechanical Engineering,

vol. 46, July 1924, p. 389
Power-plant economy, effect of high pressure, superheats, reheating and steam extraction on. *Mechanical Engineering*, vol. 46, Oct. 1924, p. 577

Power Test Codes. Test Code for Condensing Apparatus. Mechanical Engineering, vol. 46, May 1924, p. 291

Test Code for Gas Producers. Mechanical Engineering, vol. 46, Dec. 1924, p. 910

Test Code for Solid Fuels. Mechanical Engineering, vol. 46, Sept. 1924, p. 558

Test Code for Speed-Responsive Governors. Mechanical Engineering, vol. 46, Nov. 1924, p. 713

Product, quality of, measurement of. Mechanical Engineering, vol. 46, Sept. 1924, p. 546 Prosser-type reciprocating steam engine, Mechanical Engineering, vol. 47. Apr. 1925, p. 249

Pulverized coal, systems for using, hazards of, Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 783

Pulverized fuel at Cleveland Electric Illuminating Company's Lake Shore Plant, Mechanical Engineering, vol. 46, Sept. 1924, p. 519 Pumping station, Fairmount. Mechanical Engineering, vol. 46, Dec. 1924, p. 866

QUAYLE, L. A. Fairmount Pumping Station and Heating Plant. Mechanical Engineering, vol. 46, Dec. 1924, p. 866

RADFORD, G. S. Measurement of the Quality of Product. Mechanical Engineering, vol. 46, Sept. 1924, p. 546

Ramsay turbo-electric locomotive. Mechanical Engineering, vol. 47,

Apr. 1925, p. 235
RASTALL, W. H. Export Problem of the Machine-Tool Industry. Mechanical Engineering, vol. 46, Apr. 1924, p. 184

RAUSCH, R. H. Sine Bar as a Universal Planing Gage. Mechanical Engineering, vol. 46, June 1924, p. 345

Refrigeration, heat-insulation data for. Refrigerating Engineering, vol. 10, June 1924, p. 452

Repair shop, floating, for U. S. Navy. Mechanical Engineering, vol. 46, Apr. 1924, p. 173

Research and invention, stimulation of. Mechanical Engineering. vol. 46, Oct. 1924, p. 575

Rifle, Springfield, bolt of, manufacture of. Mechanical Engineering, vol. 46, Aug. 1924, p. 463

RITTMAN, W. F. Industrial Power of the Pittsburgh District outside that of the Iron and Steel Industry. Mechanical Engineering, vol. 46, Dec. 1924, p. 861

ROBINSON, ERNEST. Equipment used for Aerial Surveying. Mechanical Engineering, vol. 47, Mar. 1925, p. 170

ROSE, J. B. Some problems in the Design of Ordnance. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 774

SACKETT, R. L. Making Industry Attractive to High-School or College Graduates. Mechanical Engineering, vol. 46, Aug. 1924, p. 482

Safety movement, general discussion of. Mechanical Engineering, vol. 47, Jan. 1925, p. 34

SEARS, JULIAN D. Engineers and the American Petroleum Situation. Mechanical Engineering, vol. 47, Jan. 1925, p. 5

Shafting key stock, standard sizes for. Mechanical Engineering, vol. 46. Feb. 1924, p. 107

Sheet-metal parts, dies for production of. Mechanical Engineering, vol. 46, Sept. 1924, p. 531
SHEFFIELD, C. G. The Storage and Handling of Fuel Oil in Industrial

Plants. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 771

Sine bar as universal planing gage. Mechanical Engineering, vol. 46, June 1924, p. 345 SMITH, FRANK V. Modern Tendencies in Steam-Turbine Power Plants.

Mechanical Engineering, vol. 46, Oct. 1924, p. 577

Smoke Ordinance, Proposed Standard. Mechanical Engineering, vol. 46, May 1924, p. 303

SPERR, F. W., JR. Practical Coal Carbonization. Mechanical Engineering, vol. 46, June 1924, p. 329

Spinning frame, development and future possibilities of. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 825

Standardization of involute gears. See Gears, standardization of involute

Standards, caution advised in their adoption. Mechanical Engineering, vol. 46, Sept. 1924, p. 529

Steam engine, Prosser-type reciprocating. Mechanical Engineering, vol. 47, Apr. 1925, p. 249

Steam research, progress at Bureau of Standards. Mechanical Engineering, vol. 47, Feb. 1925, p. 106

progress at Harvard University. Mechanical Engineering, vol. 47, Feb. 1925, p. 104

progress at Massachusetts Institute of Technology. Mechanical Engineering, vol. 47, Feb. 1925, p. 105

progress in. Mechanical Engineering, vol. 47, Feb. 1925, p. 107

Steam, superheated, direct measurement of heat content of. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 808

Steam table research, discussion of reports on. Mechanical Engineering, vol. 47, Mar. 1925, p. 174

fund for, Executive Committee Report on. Mechanical Engineering, vol. 47, Feb. 1925, p. 103

progress in. Mechanical Engineering, vol. 47, Feb. 1925, p. 103 report of executive committee of fund for. Mechanical Engineering,

vol. 47, Feb. 1925, p. 103 Steam-turbine power plants, modern tendencies in. Mechanical Engineering, vol. 46, Oct. 1924, p. 577

Steamship, turbo-electric-driven, analysis of steam and fuel consumption of. Mechanical Engineering, vol. 46, Oct. 1924, p. 580

Steel industry, power organization in. Mechanical Engineering, vol. 46, May 1924, p. 248

Steel works, boiler plants, data on representative. Mechanical Engineering, vol. 46, June 1924, p. 328

STIMSON, H. F. Report on Progress in Steam Research at the Bureau of Standards. Mechanical Engineering, vol. 47, Feb. 1925, p. 106

STORER, N. W. Recent Developments in Electric Locomotives. Mechanical Engineering, vol. 46, Sept. 1924, p. 523

Subpresses and dies for sheet-metal parts. Mechanical Engineering, vol. 46, Sept. 1924, p. 531

Superheated steam, direct measurement of heat content of. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 808

Surveying, aerial, equipment used for. Mechanical Engineering, vol. 47, Mar. 1925, p. 170

SYKES, W. E. British Machine-Tool Design. Mechanical Engineering, vol. 46, July 1924, p. 395

SZEPESI, EUGENE. Engineer's Field in Industrial Economics, Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 841

TAYLOR, FREDERICK W. Quotations from Shop Management. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 806

Telescopes. New 60-in. Telescope for Perkins Observatory, Ohio Wesleyan University. Mechanical Engineering, vol. 46, Mar. 1924, p. 113

Temperature measurements. Refrigerating Engineering, vol. 10, Dec. 1923, p. 225

Textile industry, engineering solution of problems in. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 841

Textile machinery. See Spinning frame THORNBURG, MAX W. Economic Features of Heat-Exchanger Design. Mechanical Engineering, vol. 46, Dec. 1924, p. 891

Tolerances, in manufacturing operations. Mechanical Engineering, vol. 46, Apr. 1924, p. 186

in mass production of ordnance matériel. Mechanical Engineering, vol. 46, Dec. 1924, p. 887

Turbo-electric locomotives, Ramsay. Mechanical Engineering, vol. 47, Apr. 1925, p. 235

Unfired pressure vessels, report on code for. Mechanical Engineering, vol. 46, Dec. 1924, p. 916

VAN DEVENTER, F. M. Power Organization in the Steel Industry. Mechanical Engineering, vol. 46, May 1924, p. 248

Wages, manit bonus system of payment. Mechanical Engineering, vol. 46, Dec. 1924, p. 896.

Water-cooling systems, predetermining performance of. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 799

Wind power for farm electric plants. Mechanical Engineering, vol. 46, Nov. 1924, p. 675

Windmills, test data on. Mechanical Engineering, vol. 46, Nov. 1924, p. 675

X-ray examination of metals at Watertown Arsenal. Mechanical Engineering, vol. 46, Mid-Nov. 1924, p. 773

